

NORCO Falcon Refinery  
Tank Sampling  
8/30/04 through 9/2/04

Tanks to be sampled:

North Site – 2, 7, X1, X2, X3

(X1,2,3 are small tanks in NE corner of North Site)

South Site – 10, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 30, N1, N2, Y1

(N1,2 are small tanks to NW of 17-24; Y1 is small tank to SE of 17-24)

N1 – 8/31/04 – 2:30pm

Tank height = 15'5"

Tank diameter = 12'

Depth to product = 12'11"





Depth to sludge = 14'10"

Depth to water demarcation = 13'7"

Depth to sample 1 = 14'3"

Depth to sample 2 = N/A

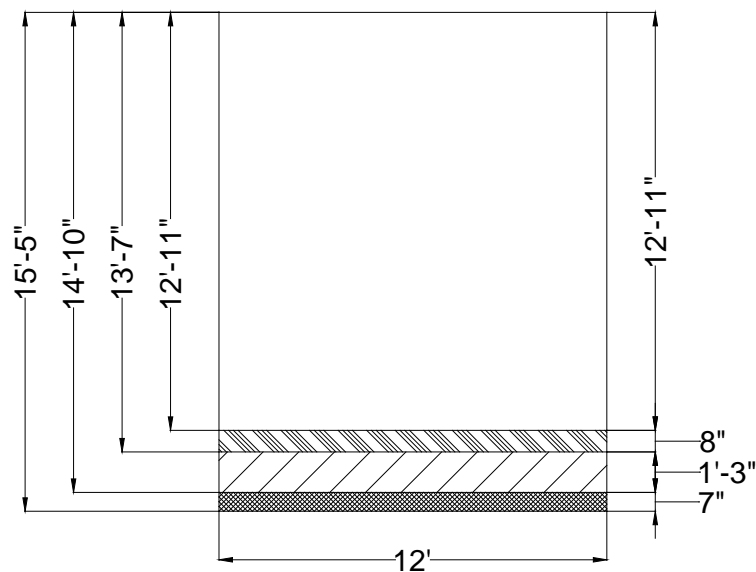
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 564.05 Gal.

Volume of Water = 1057.60 Gal.

Volume of Sludge = 493.55 Gal.



N2 – 8/31/04 – 3:30pm

Tank height = 15'5"

Tank diameter = 12'

Depth to product = 5'1" (depth to sludge, no fluids present)





Depth to sludge = 15'5" (bottom of tank)

Depth to water demarcation = N/A (no fluids present)

Depth to sample 1 = 1'0" (sample of sludge material)

Depth to sample 2 = N/A

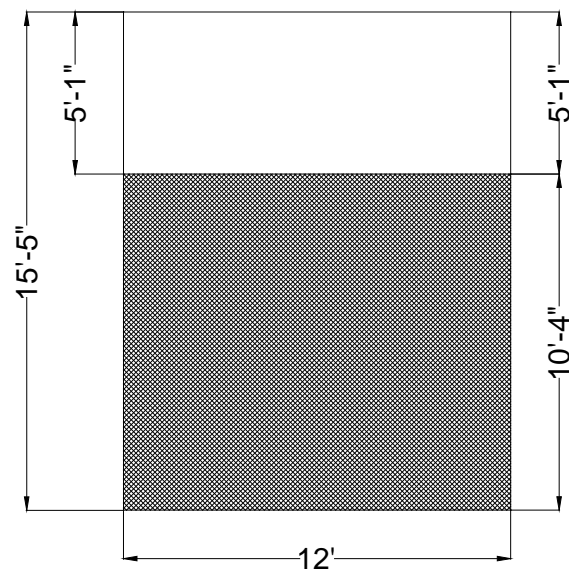
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 8742.84 Gal.



17 – 8/31/04 – 4:45pm

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 29'6" (depth to sludge, no fluids present)





Depth to sludge = 32'2" (bottom of tank)

Depth to water demarcation = N/A (no fluids present)

Depth to sample 1 = 1'0" (sample of sludge material)

Depth to sample 2 = N/A

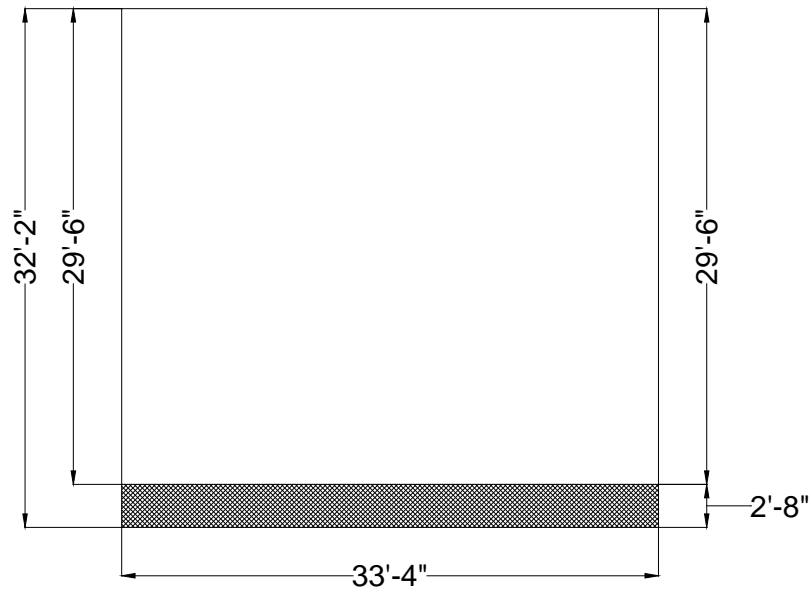
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 17409.11 Gal.



Y1 – 8/31/04 – 5:30pm (small tank SE of 21)

Tank height = 10'3"

Tank diameter = 19'

Depth to product = 5'0"





Depth to sludge = 9'9"

Depth to water demarcation = 5'6"

Depth to sample 1 = 7'6"

Depth to sample 2 = N/A

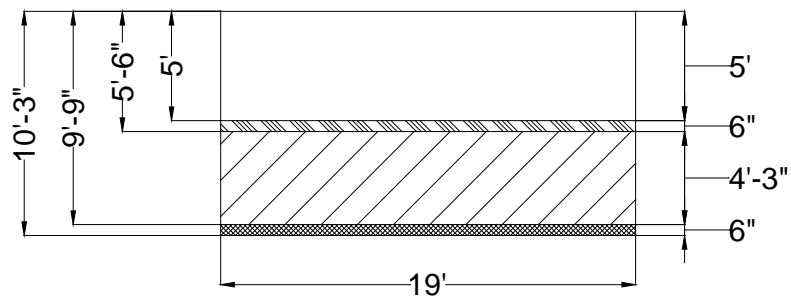
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 1060.54 Gal.

Volume of Water = 9014.59 Gal.

Volume of Sludge = 1060.54 Gal.



21 – 8/31/04 – 6:00pm

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 5'0"





Depth to sludge = 31'9"

Depth to water demarcation = 5'1"

Depth to sample 1 = 6'0"

Depth to sample 2 = 15'0"

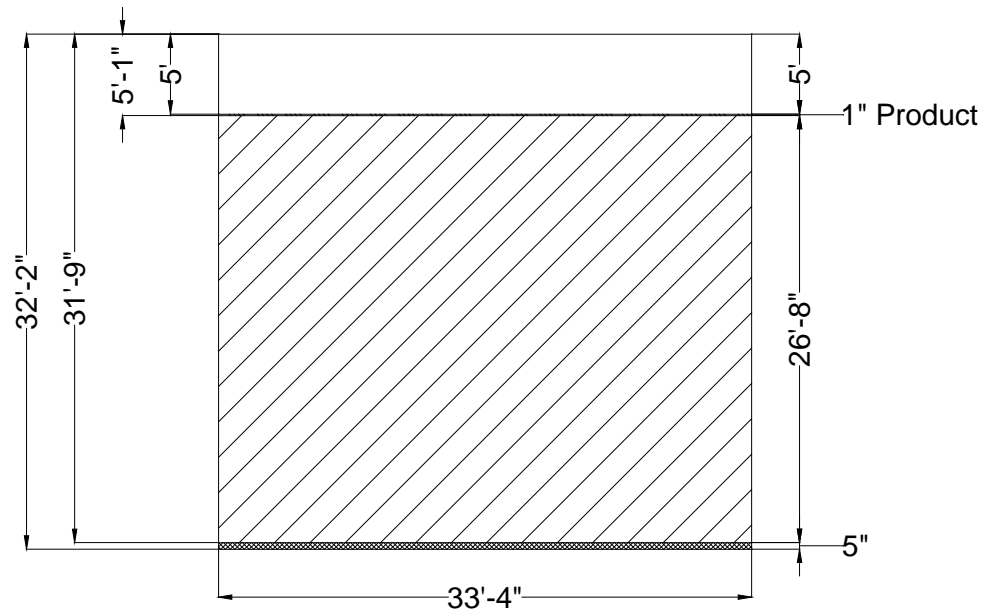
Depth to sample 3 = 31'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 541.88 Gal.

Volume of Water = 174097.96 Gal.

Volume of Sludge = 2720.28 Gal.



18 – 8/31/04 – 6:30pm

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 7'5"





Depth to sludge = 31'7"

Depth to water demarcation = 7'10"

Depth to sample 1 = 8'6"

Depth to sample 2 = 20'0"

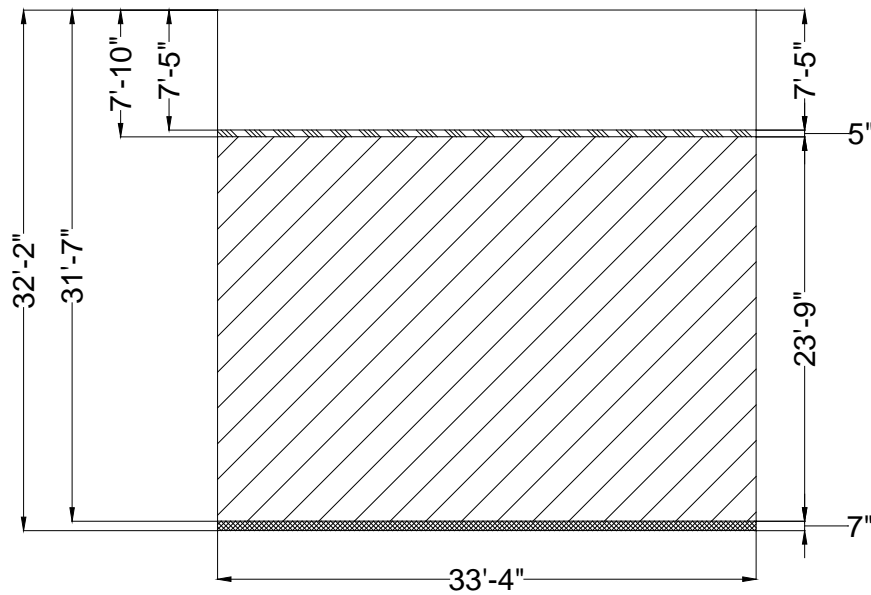
Depth to sample 3 = 31'0"

Empty	
Product	
Water	
Sludge	





Volume of Product = 2720.28 Gal.

Volume of Water = 155050.22 Gal.

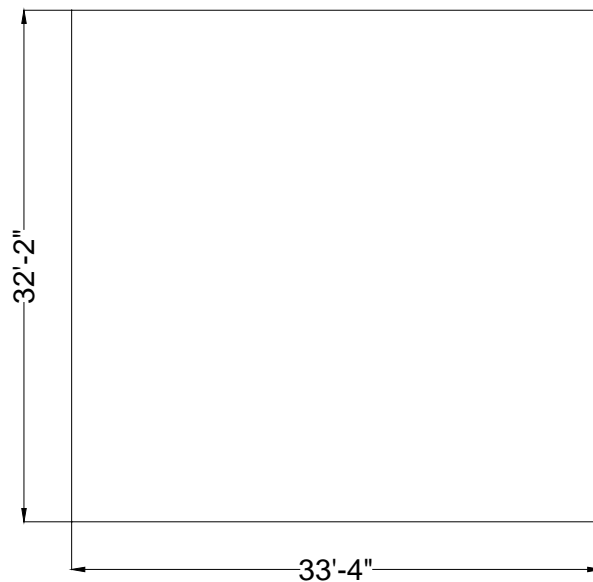
Volume of Sludge = 3808.23 Gal.



19 – 9/1/04 – 10:30am (empty tank)  
Tank height = 32'2"  
Tank diameter = 33'4"  
Depth to product = N/A  
Depth to sludge = N/A  
Depth to water demarcation = N/A  
Depth to sample 1 = N/A  
Depth to sample 2 = N/A  
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.  
Volume of Water = 0 Gal.  
Volume of Sludge = 0 Gal.



23 – 9/1/04 – 10:45am

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 21'10"





Depth to sludge = 32'2" (bottom of tank, thin layer of sludge)

Depth to water demarcation = 21'10"

Depth to sample 1 = 23'0"

Depth to sample 2 = 26'0"

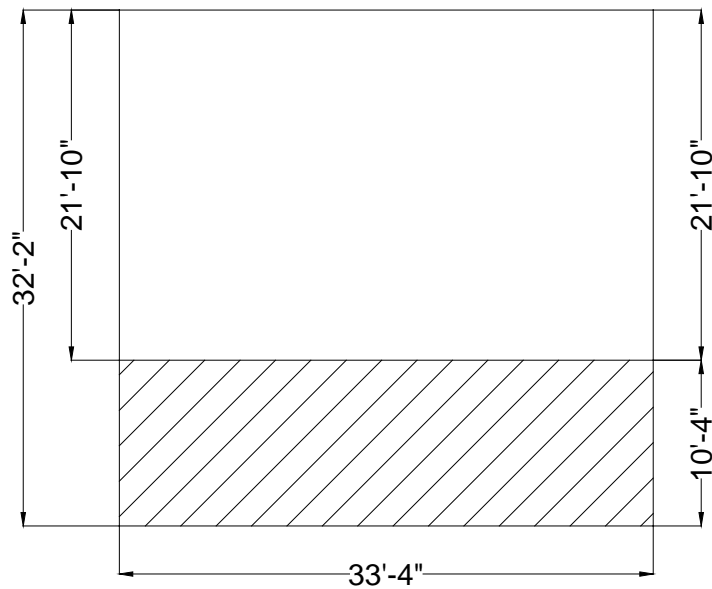
Depth to sample 3 = 31'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 67462.66 Gal.

Volume of Sludge = Negligible





22 – 9/1/04 – 11:00am

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 28'4"





Depth to sludge = 32'2" (bottom of tank, thin layer of sludge)

Depth to water demarcation = 28'4"

Depth to sample 1 = 29'0"

Depth to sample 2 = N/A

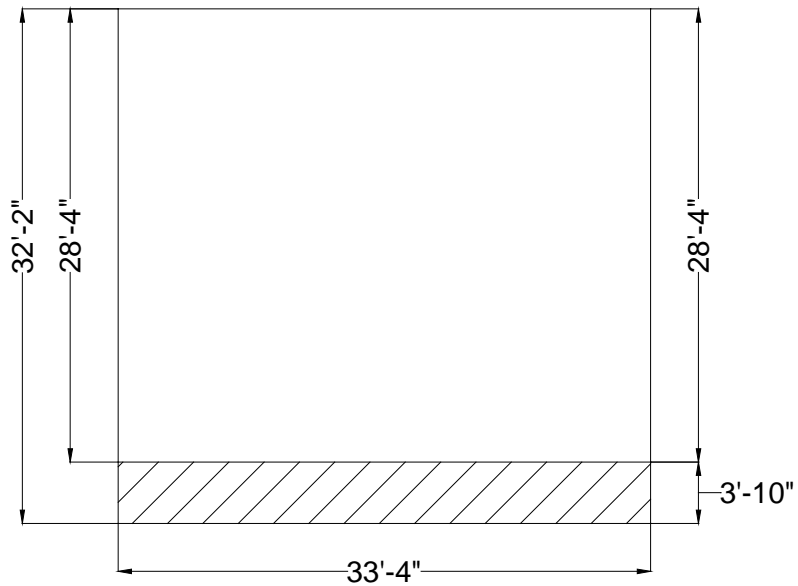
Depth to sample 3 = 31'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 25026.33 Gal.

Volume of Sludge = Negligible



20 – 9/1/04 – 11:45am

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 1'0"

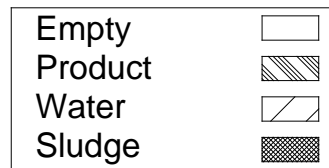
Depth to sludge = 31'8"

Depth to water demarcation = 6'0"

Depth to sample 1 = 2'0"

Depth to sample 2 = 15'0"

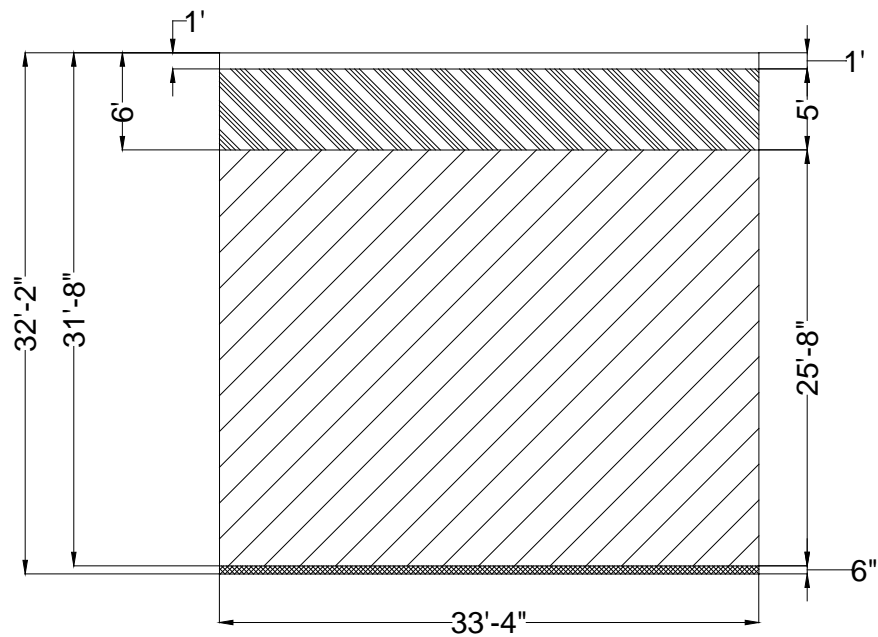
Depth to sample 3 = 30'0"



Volume of Product = 32642.15 Gal.

Volume of Water = 167569.29 Gal.

Volume of Sludge = 3264.33 Gal.



24 – 9/1/04 – 12:45pm

Tank height = 32'2"

Tank diameter = 33'4"

Depth to product = 3'6"





Depth to sludge = 31'8"

Depth to water demarcation = 3'6"

Depth to sample 1 = 4'5"

Depth to sample 2 = 16'0"

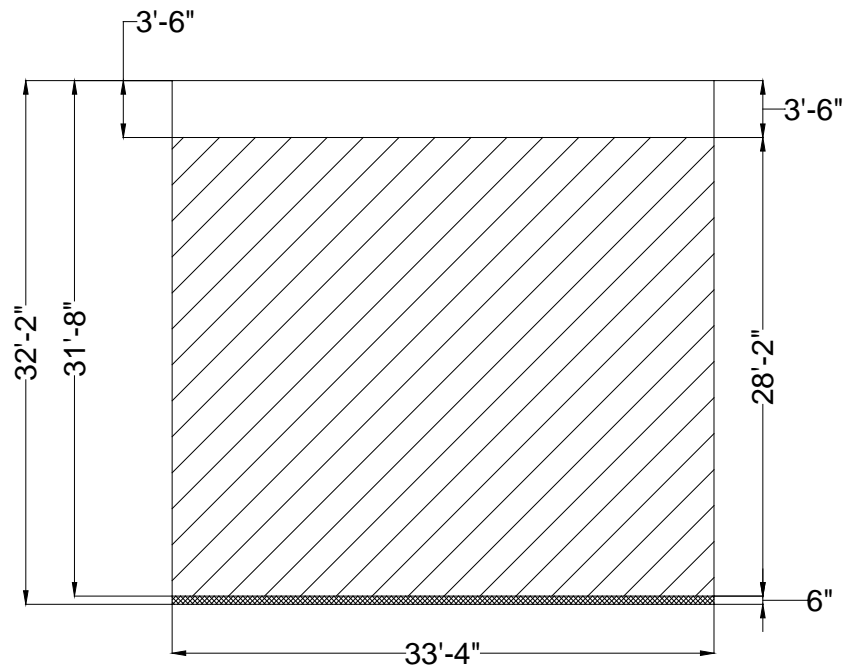
Depth to sample 3 = 31'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 183890.76 Gal.

Volume of Sludge = 3264.33 Gal.



30 – 9/1/04 – 4:10pm

Tank height = N/A (could not get measurement)

Tank diameter = N/A

Depth to product = 53'5"





Depth to sludge = 53'10"

Depth to water demarcation = N/A

Depth to sample 1 = N/A (sample attempted, could not collect)

Depth to sample 2 = N/A

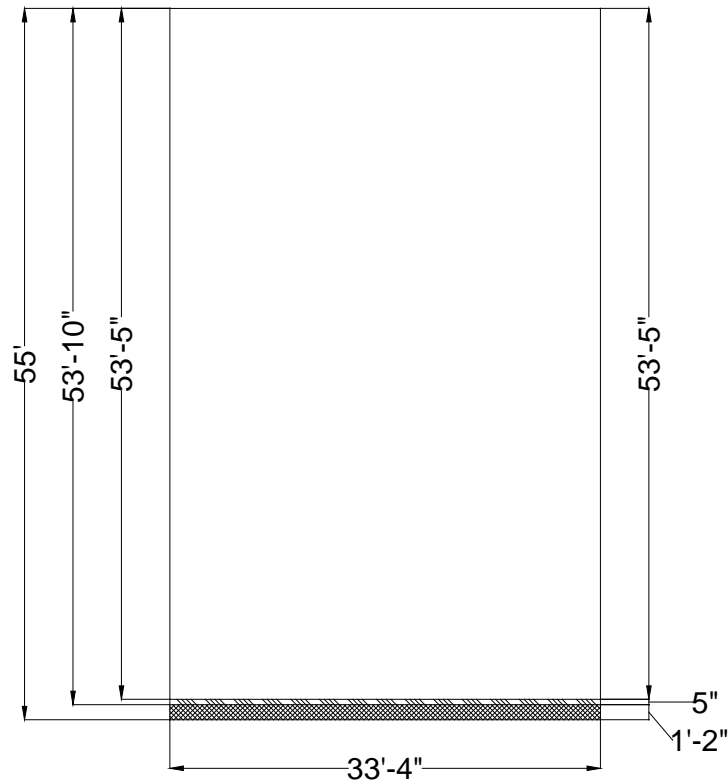
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 2720.30 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 7616.80 Gal.



7 – 9/1/04 – 5:30pm (internal floating roof; difficult access to sampling location)

Tank height = 32'0"

Tank diameter = 47'4"

Depth to product = 3'0" (top of internal floating roof)





Depth to sludge = 32'0" (bottom of tank, thin layer of sludge)

Depth to water demarcation = N/A

Depth to sample 1 = 5'0"

Depth to sample 2 = 16'0"

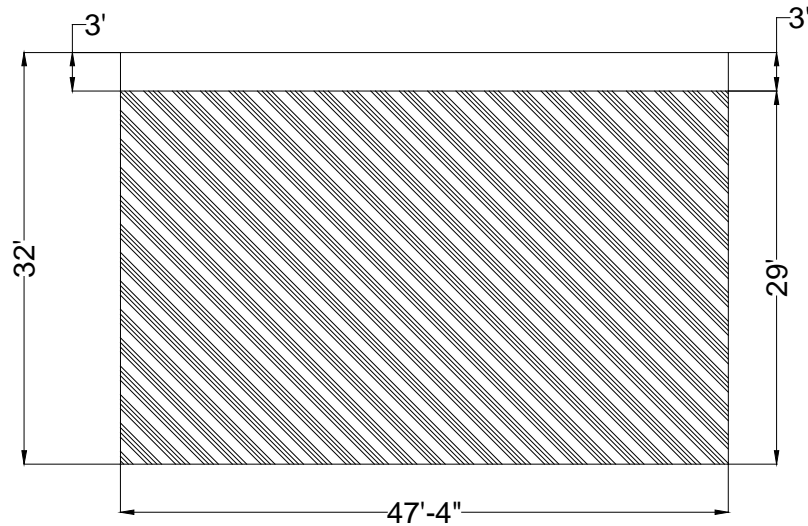
Depth to sample 3 = 30'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = ?

Volume of Water = ?

Volume of Sludge = ?



2 – 9/1/04 – 6:45pm

Tank height = 24'0"

Tank diameter = 50'

Depth to product = 12'3"





Depth to sludge = 23'9"

Depth to water demarcation = N/A (no detectable demarcation)

Depth to sample 1 = 14'0"

Depth to sample 2 = 19'0"

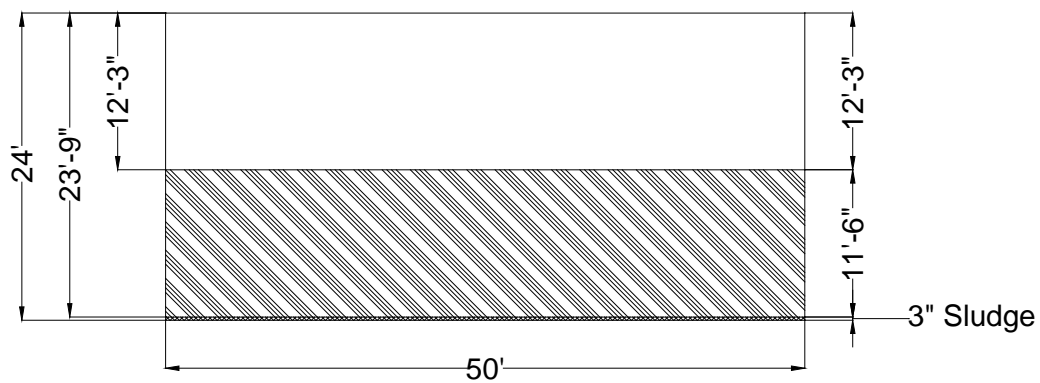
Depth to sample 3 = 23'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 168922.46 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 490.87 Gal.



X3 – 9/2/04 – 9:30am

Tank height = 18'0"

Tank diameter = 16'6"

Depth to product = N/A (no fluids)





Depth to sludge = 17'3"

Depth to water demarcation = N/A

Depth to sample 1 = 17'6" (sample taken of sludge from ground level manway)

Depth to sample 2 = N/A

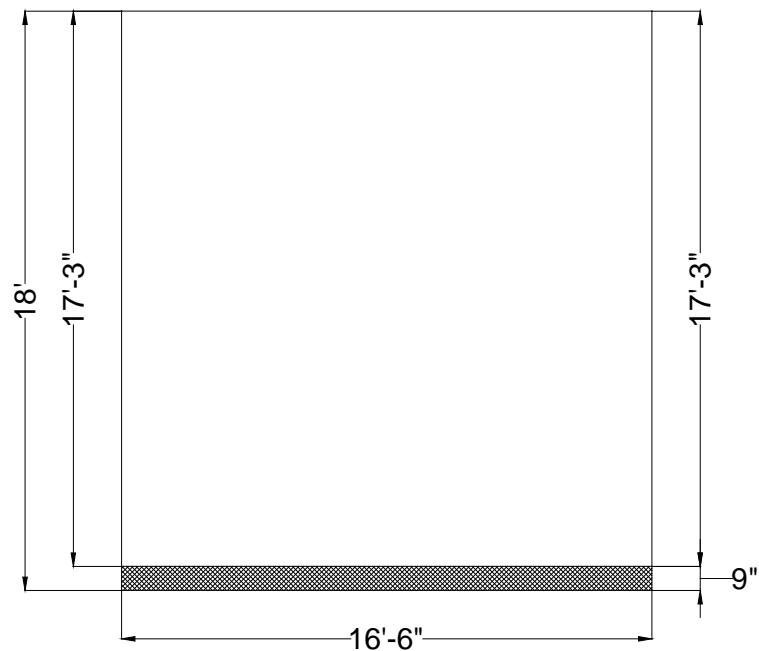
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 1199.72 Gal.



X2 – 9/2/04 – 9:30am

Tank height = 18'0"

Tank diameter = 16'6"

Depth to product = N/A (no fluids)





Depth to sludge = 17'2"

Depth to water demarcation = N/A

Depth to sample 1 = 17'6" (sample taken of sludge from ground level manway)

Depth to sample 2 = N/A

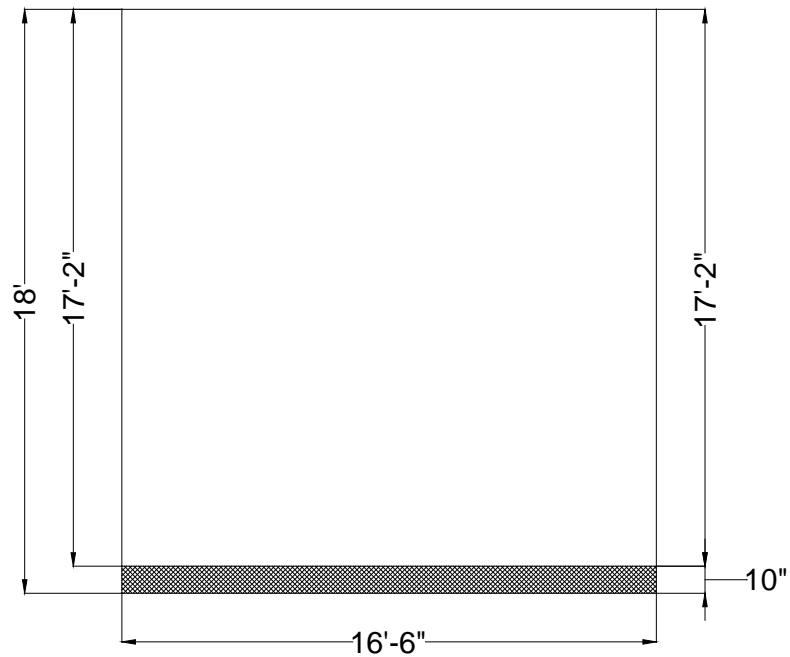
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 1332.97 Gal.





X1 – 9/2/04 – 9:30am

Tank height = 15'0"

Tank diameter = 16'6"

Depth to product = N/A (no fluids)





Depth to sludge = 13'10"

Depth to water demarcation = N/A

Depth to sample 1 = N/A (no access to obtain sample of sludge)

Depth to sample 2 = N/A

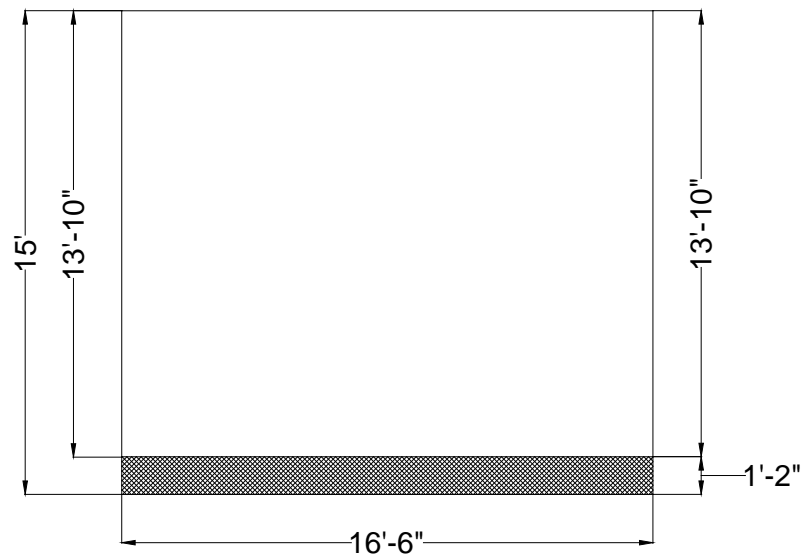
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 0 Gal.

Volume of Sludge = 1866.23 Gal.



10 – 9/2/04 – 12:00pm

Tank height = 40'0"

Tank diameter = 94'6"

Depth to product = 36'0"





Depth to sludge = 40'0" (bottom of tank, thin layer of sludge)

Depth to water demarcation = N/A (attempted, could not obtain measurement, assume approx 6" layer of thick product)

Depth to sample 1 = 38'0"

Depth to sample 2 = N/A

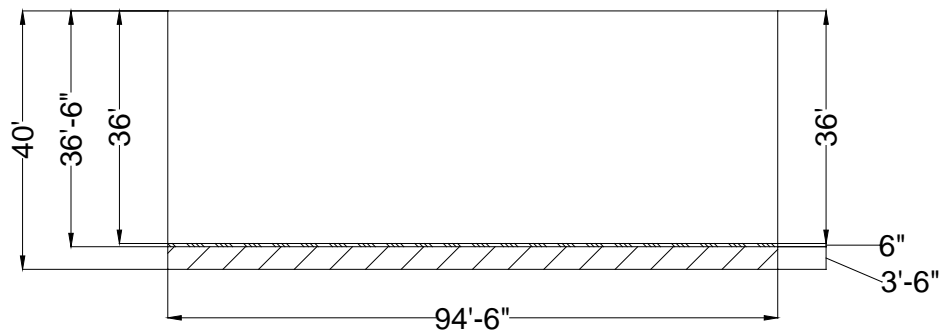
Depth to sample 3 = N/A

Empty	
Product	
Water	
Sludge	

Volume of Product = 26235.13 Gal.

Volume of Water = 183645.88 Gal.

Volume of Sludge = Negligible



26 – 9/2/04 – 4:30pm

Tank height = 40'0"

Tank diameter = 107'9.5"

Depth to product = 0'0" (tank full)





Depth to sludge = 40'0" (bottom of tank, thin layer of sludge)

Depth to water demarcation = 0'0"

Depth to sample 1 = 2'0"

Depth to sample 2 = 20'0"

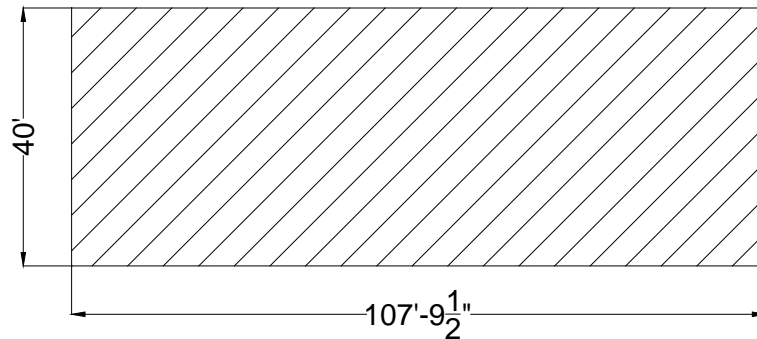
Depth to sample 3 = 38'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 2730754.06 Gal.

Volume of Sludge = Negligible



27 – 9/2/04 – 6:30pm

Tank height = 40'0"

Tank diameter = 107'9.5"

Depth to product = 0'0" (tank full)





Depth to sludge = 39'5"

Depth to water demarcation = 0'0"

Depth to sample 1 = 2'0"

Depth to sample 2 = 20'0"

Depth to sample 3 = 38'0"

Empty	
Product	
Water	
Sludge	

Volume of Product = 0 Gal.

Volume of Water = 2690930.79 Gal.

Volume of Sludge = 39823.27 Gal.

